diabetes, the lessening and even the final disappearance of the sugar in the urine. This property of the healthy interacinous cell groups of the pancreas also explains the rationale of the treatment in certain mild forms of diabetes by restriction of a carbohydrate diet. The non-occurrence of sugar after return to general diet may be taken as evidence that a sufficient degree of hypertrophy has occurred in the healthy islands of Langerhans.

ORTHOSTATIC ALBUMINURIA.

By Charles Louis Mix, A.M., M.D. (Harvard),
PROFESSOR OF PHYSICAL DIAGNOSIS, NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, CHICAGO.

Physicians who examine large numbers of presumably healthy young adults, as do life insurance examiners and army and navy surgeons, occasionally meet with individuals showing albuminuria; careful physical examination, however, shows none of the cardiovascular changes of nephritis, and microscopic examination of the sediment is entirely negative. I have met with 5 such cases in the last five years, 4 of them having learned of their albuminuria from insurance examiners.

During the last nineteen years, ever since Pavy's[1] first report of 6 cases published in 1885 in the *Lancet*, numerous cases have been recorded in the medical literature of all countries, more especially of Germany and France. Moxon,[2] in England, as early as 1878, reported cases of intermittent and adolescent albuminuria, classifying them into two groups: those showing renal disease, and those not showing it, the latter cases being distinguished by pulses of low tension. T. M. Rooke[3] the same year reported 2 cases, aged fourteen years and sixteen years, respectively, in whom albumin constantly occurred in urine secreted and passed during the day, and in whom it was constantly absent in urine secreted and passed during the night. A similar case, reported by Clement[4] in 1881, showed disappearance of albuminuria after the patient had spent an hour or two quietly in bed. It was Pavy, however, whose paper first gave impetus to the more thorough appreciation of the subject, and he acknowledges Moxon's priority in the report of cases. Pavy reported 6 cases in his first paper, adding 3 more in a second paper the following year. Two of the original 6 cases were kept in sight for a year, 1 at the end of that time being free from albuminuria, the other still showing it. A group of 3 cases, followed for two years, recovered; one case, followed for four years, constantly showed albuminuria. The second series of 3 cases were those of two boys and one girl, the original 6 being men and boys. Pavy discovered that all

9 of his cases showed no albumin on rising, more or less at mid-day, and a trace in the afternoon, lasting till the patient retired. Fasting made no difference in the amount of albumin detected. Pavy, therefore, proposed the term "cyclic" albuminuria, a term which still remains firmly established in medical literature. That the albuminuria is not due to renal disease seemed evident to Pavy, both on account of the entire absence of cardiovascular signs of nephritis and on account of the absence of casts and other pathological findings in the microscopic examination of the urine. Stirling, in 1887, reported a case of which the upright position was constantly associated with albuminuria, and proposed the term "postural" albuminuria. Heubner, from whose service at the Charité Hospital, in Berlin, 7 cases were reported by Schön,[5] recognizing the relation between the upright position and the presence of albumin, proposed the term "orthotic" albuminuria, the albuminuria of the upright position. This term was further improved upon by Teissier (of Lyons), and Merklen, who invented the word "orthostatic" as the descriptive term for the symptom, and French writers uniformly allude to the condition to-day as "orthostatic" albuminuria. In the United States this euphonious term is prevailing, but in England and Germany Pavy's and Heubner's appellations are the more usual ones.

Attempts at classification of these numerous cases meet with failure, because of the fact that orthostatic albuminuria may be a symptom of some form of Bright's disease, notably chronic interstitial nephritis, or may be a condition *per se.* For example, a few cases of chronic interstitial nephritis may show no albumin in nocturnal urine, but may show traces in diurnal urine. Strictly speaking, orthostatic albuminuria is albuminuria from whatever cause, occurring while the patient is standing erect. It is permissible, however, to limit arbitrarily the term to those cases of orthostatic albuminuria in which, upon physical and microscopic examination, there are no signs of renal disease. If there are such signs, then Bright's disease should be diagnosticated, and the accompanying orthostatic albuminuria be alluded to as merely a more or less interesting symptom.

On attempting to classify cases of orthostatic albuminuria with normal cardiovascular systems and normal microscopic findings in the sediment of the urine, in other words, orthostatic albuminuria in the limited sense of the word, we shall find that they fall into the following classes:

1. INTERMITTENT CASES. These cases show an albuminuria continuous for weeks or even months; then stopping for a time, only to reappear after an interval of varying length. In the course of time they seem more likely to develop into Bright's disease than the second group of cases about to be mentioned; indeed, both Bright and Gull have described typical cases of Bright's disease thus insidiously beginning. Followed a few years these cases are likely to

show casts in the urinary sediment. As to age, there are two subdivisions among the intermittent cases:

(*a*) *Adults.* The grown patients with intermittent albuminuria show no distinctive characteristics, morbid or physical.

(*b*) *Children.* The children with intermittent albuminuria are usually cases of post-infectious nephritis, diphtheria, and scarlatina, giving rise to the larger number of cases. It is not essential that the nephritis be the immediate sequel of the infection, cases being reported where an interval of several months has occurred between the time of infection and the time of appearance of the albuminuria.

2. CONTINUOUS CASES. These cases show an albuminuria which is continuous, often for years, never intermitting, and, when finally passing away, doing so never to return. Though they may be of long duration, as a rule, they are transitory. Ewald[6] and others believe that they never develop into cases of true nephritis. As to age, there are two subdivisions:

(*a*) *Adults.* Grown people affected with this sort of albuminuria are almost invariably neurasthenic. So true is this, that the introduction of the term "neurasthenic albuminuria of adults" would not be amiss. As long as the marked vasomotor paresis, so frequent a symptom of neurasthenia, persists, so long does the albumin appear in the urine. The vasomotor paresis has for its best and most reliable symptom the beating of the abdominal aorta, the degree of beating often being so pronounced that the inexperienced for the time entertain the suspicion of abdominal aneurism, the beating being due, however, merely to vasomotor paresis, with a resulting loss in the elasticity of the aortic wall.

(*b*) *Children.* Continuous orthostatic albuminuria in children in large measure is associated with movable kidney, rather than with neurasthenia. The movable kidney is undoubtedly always congenital, and, as a rule, is not associated with splanchnoptosis. Kuttner,[7] out of 62 cases of orthostatic albuminuria of all ages, reports 22 of movable kidney in children, a proportion of 35.5 per cent of all types of cases at any age. Sutherland[8] reports 15 cases of movable kidney in 40 cases of all ages and types, 37.5 per cent. of the total. Relatively, therefore, this subdivision is a large one.

Both of these general divisions of orthostatic albuminuria, the intermittent and the continuous, are "cyclic" in the sense in which Pavy used the word; that is, both show the albumin in largest amounts in the forenoon hours, in smaller amounts in the afternoon and evening hours, and both show the absence of albumin during the night. Both of these general divisions, the intermittent and the continuous, are "orthotic" or "orthostatic," since both show albumin while the body is in the standing or erect posture, and both show the absence of albumin while the body is reclining, whether during the night or during the day. It is evident from my attempts, then, at classification, exactly as Achard[9] states, that orthostatic albuminuria is not a nosographical type, sharply demarcated and deserving a description of its own, but is rather a symptom occurring in many different conditions. Moreover, there are cases, which, as Méry and Touchard[10] point out, are continuous during the first few years of their existence, and which subsequently metamorphose into the intermittent type. Where, then, should these cases be classified? We must admit that no hard-and-fast line of demarcation can be drawn between Group 1 and Group 2 of my classification.

Concerning the frequency of occurrence of these cases, some idea may be had from the large numbers reported. For example, Van Noorden reports 154 cases in healthy soldiers in the Netherlands army (Stokvis[11]). Zecthuisen reports 13 cases from an eye clinic. Stokvis reports the case of a superior officer in the Netherlands army in whom albuminuria was accidentally found, and who, on account of it, was kept out of service for months, being finally invalided home. He felt well, and disliked the order exceedingly, but was forced to yield. For several years he was in Stokvis' care, the albuminuria constantly persisting. Stokvis reports other cases. Heubner[5] reports 7 cases; Pavy[1], 9 cases; Edel,[12] 3 cases; Huger,[13] 2 cases. Kuttner,[7] from Ewald's clinic, gathered in ten years 62 cases; Sutherland,[8] 40 cases; Beck[14] reports 1 case; Teissier, numerous cases. In the *Bulletin et mémoires de la Société médicale des hôpitaux* for 1900 and 1901 numerous cases are reported by Teissier, Méry, Achard, Lenoissier, Lemoine, Touchard, Le Noir,[15] and others.

As to the chief etiological factors, Senator[16] states that most cases occur in adolescent girls. Of Sutherland's[8] 40 cases, 30 were females; of Le Noir's[15] 24 cases, 15 were females. On the other hand, 4 of my own cases were males. Of Pavy's 9 cases, 8 were males. Huger,[13] after a study of the literature, reports 88 per cent. of cases in males and only 12 per cent. in females. These diverse statistics may, perhaps, be reconciled, the preponderance of males occurring chiefly in the practice of those concerned in insurance or army examinations, and the preponderance of females in those with a practice in children's diseases, as in Sutherland's and Heubner's cases.

As to the age, Kuttner[7] reports as follows:

3 to 5 years	14 cases.
5 " 10 "	16 "
10 " 15 "	22 "
15 " 20 "	12 "
20 " 25 "	6 "
29 "	1 case.
32 "	1 "

Le Noir in 24 cases reports:

Under 10 years	2 cases.
10 to 20 "	10 "
20 " 30 "	5 "
Above 20 "	7 "

The maximum incidence in Kuttner's 62 cases is between the fifth and the fifteenth years, 38 of the cases, or 61 per cent., occurring at that period of life. Ewald,[6] from whose clinic Kuttner's cases were reported, agrees with Kuttner. Huger, who looked up the literature, concludes that most cases occur in adolescence, but notes that instances occur at any age. Pavy's 6 original cases occurred at the ages of eighteen, nineteen, twenty-one, twenty-eight, and forty-nine years; two at nineteen years.

Those who find a majority of cases in children naturally turn to the infectious diseases as a cause. Thus Méry and Touchard report a case in a girl aged fourteen years, following diphtheria and pertussis. Senator agrees that many cases follow the infectious diseases. Even adults may trace the albumin apparently to an infectious disease, Hertz and Salomon[17] reporting a case in a male aged twenty-three years, the albuminuria developing a few months after scarlet fever. Siredey reports a case of post-scarlatinal orthostatic albuminuria of the intermittent form in a young girl. Le Noir, who reports 24 cases of intermittent albuminuria, not necessarily orthostatic, though some of them were of that type, noted that 3 followed scarlet fever, 4 followed typhoid fever, 1 followed puerperal fever, and 5 followed smallpox.

In some cases baths have been thought to have a causal effect in the production of orthostatic albuminuria. Thus Remi Picci and Galewitch report cases apparently due to warm baths (Stokvis[11]); and Ewald[6] admits the possibility. Cold baths are also a cause, just as they are a cause of paroxysmal hæmoglobinuria. Indeed, in these cases it seems as if no hæmoglobinuria resulted, but instead a paroxysmal albuminuria. On the other hand, Edel believes that warm and even cold baths are actually curative in orthostatic albuminuria, since he believes them to promote diuresis.

Exercise and overexertion are apparently not causal factors, every author of note agreeing on this. Pavy's experiments early demonstrated that no increase of albuminuria ever resulted from overexertion. Indeed, Edel goes so far as to propose exercise as a curative measure.

Some cases are hereditary or familial. Thus Schön,[5] reporting cases from Heubner's clinic in 1895, found cases of orthostatic albuminuria in two sisters, one aged fifteen years and one aged thirteen years. Similarly, Achard[9] reports cases in sisters, a girl aged twelve years and one aged eighteen years. Le Noir reports a family consisting of five children, the older sisters showing no albumin and the three boys orthostatic albuminuria, two being twins. The mother had had albuminuria ever since she was seventeen years of age, and had passed through five pregnancies without any impairment of health whatever. Of my own cases, 2 are familial; a father and his nine-year-old daughter show orthostatic albuminuria, the only remaining child being free from it.

The ingestion of food is without influence, according to most observers, from Pavy down, Pavy noting that fasting did not reduce the albumin. Indeed, Edel believes the ingestion of food diminishes the amount of albumin present, and thinks it does so by promoting diuresis. Lenoissier and Lemoine,[18] however, noting that people eat during the day and sleep at night, illogically look upon food as a possible causal factor. Méry and Touchard, in one of their three conclusions summarizing the leading points of their paper, declare that there is an absolute absence of effect upon orthostatic albuminuria by digestive labor. Indeed, the very fact that the maximum albuminuria is before dinner, and that it decreases in the afternoon and evening, when the heavier meals are customarily taken, would seem to indicate the inadequacy of food as a causal factor.

The consensus of opinion is that the erect posture is the chief etiological factor. Concerning the influence of the erect posture in general upon the elimination of water and of urea in the urine, careful experiments by Lenoissier and Lemoine[18] are of interest. These investigators found that standing notably lowers the secretion of water by the kidneys in all individuals, whether healthy or suffering from Bright's disease. The diminution of the quantity of urine passed was found to be greater when the kidneys are diseased than in the healthy state, and the difference is sufficiently marked and sufficiently constant to indicate that excessive orthostatic oliguria is a very delicate sign of defective renal function. The most pronounced reduction that these authors found was 71 per cent. while standing; that is, 29 per cent. as much was secreted standing as lying. If one furthermore measures the excretion of urine during the period of prone posture following the erect posture, a compensatory polyuria will be found. Nevertheless, the quantity of urine secreted in twenty-four hours remains lower than the total which the patient might have secreted had he remained constantly in bed. In a series of patients the average diminution of urine passed in the erect posture was 25 per cent.

Conversely, the erect posture, both in disease of the kidneys and in health, has influence upon the elimination of urea, a greater quantity being secreted in the upright posture, a lesser quantity in the prone position. In the light of these two facts it is not difficult to appreciate the influence which the upright posture may really have upon the elimination of albumin. Moreover, the early experiments of Dukes Clement with his patient, of Pavy with his patients, and of numerous observers since, tend to establish incontrovertibly a close relationship between the upright posture and orthostatic albuminuria. Whether the upright position is the real cause, or whether it is a posture permitting the exercise of a more remote cause, is, of course, not established. That it may not be the real cause is evident from the fact that there is usually a diminution of albuminuria toward the end of the day, after the patient has been standing the maximum time-length.

Kuttner was the first, I believe, to point out a relationship between movable kidney and albuminuria in young girls. He found the right kidney movable in 22 out of 62 cases, or in 35 per cent. In 19 of these 22 cases both kidneys were movable. Le Noir reports that of his 24 cases, 8 had movable kidneys, or 33 per cent., a figure closely agreeing with Kuttner. All 8 of his cases were females. Sutherland found in a total of 40 cases of orthostatic albuminuria in adolescence, 15 with movable right kidney, in 5 of whom both kidneys were movable. His percentage is, therefore 37.5. Adding these three sets of cases, we find 45 cases of movable kidney in 126 patients, a percentage of 35.7. The average age of Sutherland's patients was ten and a half years, the extreme variations being seven and fourteen years. Since Sutherland's total of movable kidney in the 40 cases of orthostatic albuminuria was greater than found in all the remaining patients of his hospital service during a period of fifteen years, its relationship as expressed by this fact is very important. Sutherland, however, regards the movable kidney as an effect of the orthostatic albuminuria rather than as a cause, his explanation being that the daily surcharging of the kidneys with venous blood when the patient assumes the erect posture, and the consequent increased weight of the organ, may in time tell upon the normal supports and induce a certain progressive degree of motility. Movable kidney was also reported by Bourcy,[19] in the case of a youth, aged nineteen years, and by Nivière,[20] in a young man, aged twenty years.

Pathology. Inasmuch as not a single case of orthostatic albuminuria has ever to come to post-mortem examination, there is no knowledge whatever as to either presence or absence of renal changes. There are theories of pathogenesis, to be sure, which are more or less plausible, and there is a fairly widespread idea that orthostatic albuminuria is functional or physiological. Of exact information, there is none. Senator[16] has long been of the opinion that albuminuria of the intermittent type may be physiological. According to him, physiological albuminuria exists, though limited to very small amounts of albumin, in healthy individuals of not very advanced age, in whose urine there is no evidence of any departure from the normal and in whose cases the albuminuria is called forth only by certain physiological causes, chief of which are overexertion, overeating (especially of proteids), cold baths, emotional disturbances, and mental overwork. Such cases of albuminuria must, however, be operative only in a transitory and desultory way, and cannot account for the continuous cases of orthostatic albuminuria so frequently observed. Others, and the majority of writers, are decidedly opposed to Senator's view, and, personally, I belong to the majority.

Edel,[12] observing that the amount of albumin diminishes after dinner, being less from three to six in the afternoon than in the forenoon, a fact exactly opposed to the idea that food increases the amount of albumin, sought a new explanation, which he endeavored to prove. He made the experiment of postponing the dinner hour, and discovered that he also postponed the time of minimum albuminuria in every case examined. He then abolished the dinner altogether and entirely eliminated the period of minimum albuminuria. He found, further, that, as is generally known, the ingestion of food causes increased diuresis. The recumbent posture is also associated with diuresis. He therefore arrived at the conclusion that the true theory of origin of the albumin is that it results from diminished diuresis, and hence proposes as a cure the ingestion of larger amounts of water and various diuretics. Ewald does not agree with Edel, and the latter's hypothesis has failed to attract much attention or any following.

The most plausible theory of pathogenesis is that of Marie and numerous other writers. As is suggested in my classification, it was early noted that cases of orthostatic albuminuria in young adults and even in older individuals were, as a rule, associated with hysteria, neurasthenia, and dyspepsia nervosa. In all of these individuals there was considerable vasomotor paresis indicated by the cold and semicyanotic extremities and by the beating abdominal aorta. Marie, while necessarily indefinite, subscribes to a theory of vasomotor origin. Ewald,[6] writing in Eulenburg's *Jahrbuch* upon renal diseases in the volume recently issued in January, 1904, puts the matter in this way: "When we consider all the facts that we have knowledge of concerning the genesis and causes of this peculiar affection, we are able to assert with certainty only this much: that disturbances of the circulation must be the underlying factors, manifesting themselves through the influences of certain reflexes in the renal parenchyma." The exact area is thought by Ewald to be in the glomeruli, though he admits the possibility that the tubules may also be within the area of vasomotor disturbance. As to the cause of the diurnal variations in the circulation, neither Ewald nor any other authority has been able to afford any information.

SYMPTOMATOLOGY. *The Urine.* The quantity of urine passed in ~~the twenty-four hours is approximately~~ normal, averaging 1100 c.c. or 1200 c.c. in the young to 1500 c.c. or 1600 c.c. in adults. The specific gravity is not at all lowered; indeed, in a case reported by Beck,[14] the average specific gravity of 36 specimens, passed over a period of six months, was 1026.2.

The albumin found is serum albumin or globulin, best detected by the acetic acid and ferrocyanide of potassium test. Nucleo-albumin, according to Ewald, may be present, but it is very rare, The albumin is present, as a rule, in relatively small quantities, such as small or large traces, but it may be present in large amounts, even

$\frac{1}{5}$ of 1 per cent. The daily variation is fairly regular, there being no albumin in urine passed on rising, a maximum amount in that passed during the forenoon, usually about 11.30 A.M.; while in the afternoon the amount of albumin falls, reaching a minimum in the evening. In appearance the urine is perfectly normal, being lighter in color and increased in amount in the afternoon.

Microscopically, casts are rarely found. In Pavy's original paper the absence of casts was one of the diagnostic points. Personally, I was able to find casts in but 1 of my 5 cases, and I suspect that eventually cardiovascular signs of nephritis may develop in him. Ewald agrees that in the majority of true cases there are no casts. Huger,[13] reporting 2 cases of young men, both under twenty-one years, found casts in the urine of each. He expresses himself as feeling certain that very careful examination will show casts in all cases of orthostatic albuminuria.

Cryoscopy affords no information in regard to the presence of nephritis, the reduction of the freezing-point being within the normal variation. The methylene-blue test made by Hertz and Salomon also resulted negatively, indicating the probable absence of renal disease.

SUBJECTIVE SYMPTOMS. As a rule, there are no subjective symptoms in these cases, most individuals regarding themselves as healthy, still the patient may be languid, though not sick, and, according to Marie, may suffer from neuralgias of various sorts, palpitation, vertigo, and even nose-bleed. He is more apt to suffer, however, from hysteria, neurasthenia, or dyspepsia nervosa. The vasomotor disturbances are the most pronounced, cold hands and feet being the rule, and pulsatory abdominal aortas being very common. The arterial pressure is reduced in all true cases of orthostatic albuminuria. If it is found increased, the case is very likely a true nephritis, originating insidiously.

The vasomotor paresis doubtless explains the acceleration of the pulse, the variations of rate in Kuttner's 62 cases being as follows:

Rate	60	to	70	2	cases.
"	70	"	80	14	"
"	80	"	90	25	"
"	90	"	100	12	"
"	100	"	110	9	"

Thus, 46 had a pulse rate of 80 or more. Many of these cases of Kuttner were anæmic and chlorotic, and the increase in pulse rate may thus also find an explanation. In all 5 of my own cases there was an increased pulse rate.

Le Noir noted in his 24 cases that the individuals were, as a rule, thin, the deficient nutrition possibly being due to the dyspepsia and constipation which he frequently found.

Cardiovascular signs are invariably absent, there being no hypertrophy of the left ventricle, accentuation of the second aortic sound, increase in arterial tension, as shown by the pulse and tonometer, ocular symptoms, œdema, or polyuria.

DIAGNOSIS. The diagnosis is not difficult. Given a case of albuminuria, an examination of the urine passed by the patient on rising should be made. If this is found free from albumin, a series of samples should be collected during the next twenty-four hours and analyses made of each of them. If by this means the case shows an orthostatic albuminuria, other alterations in the urine should be sought, such as polyuria, marked oliguria, marked reduction of urea, lowered specific gravity, microscopic signs of renal diseases, such as various casts, renal epithelial cells, erythrocytes and leukocytes. These being negative, and by the previously made physical examination, the heart and bloodvessels being found free from signs of nephritis, the eyes free from hemorrhagic or albuminuric retinitis, the skin from œdema, and the nervous system from signs of renal involvement, the diagnosis of orthostatic albuminuria may provisionally be safely made. The case should then be kept under observation for many months, and repeated tests for albumin be made, so that the case may be accurately classified, either in the great group of insidiously beginning nephritis or in the group of symptomatic orthostatic albuminuria, or in the lesser group of true orthostatic albuminuria. When placed in the latter category, it must then be determined whether the case belongs to the intermittent or to the continuous type.

PROGNOSIS. It seems very clear to all who have written on the subject that many cases of orthostatic albuminuria wholly recover. Thus, in Kuttner's 62 cases, 34 recovered within a year, 26 being followed from two to ten years. It seems equally clear that many of those not recovering do not subsequently develop into cases of nephritis. Thus Le Noir reports a case of a girl, aged eighteen years, followed until the age of thirty-two, at which time the case was reported; this girl married and went through three pregnancies without accident. She showed albumin daily, yet always remained in excellent health. Another case reported was that of a young girl, followed since she was seventeen years of age, who went through five pregnancies without mishap. Ewald is equally sure that there is no indication that the typical and undoubted cases lead to nephritis. Indeed, most cases do quite the reverse; they recover. Klemperer also states that these cases never run into Bright's disease. Teissier, of Lyons, who reported 28 cases in 1896, reported only 4 cases which subsequently developed Bright's disease; the other 24 recovered or else continued to pass albumin during the daytime without signs of nephritis developing. Lambert,[21] writing on the prognosis of albuminuria, states that the albuminuria of adolescence (seventeen to thirty years) is of good prognosis, expressing the opinion that few men pass six months of their life without casts or albumin of transient duration. Méry and Touchard report the case of a girl with orthostatic albuminuria who married and went through a pregnancy without accident. Huger, on the other hand, finding casts in the 2 cases he reported, and believing that casts can be found with very careful search in all cases, believes them all to be latent Bright's disease. Achard[9] sensibly remarks that "in presence of a case of orthostatic albuminuria we cannot, especially before we have followed the patient for some years, formulate an unreserved prognosis."

Personally I am of the opinion that these cases showing the intermittent type of physical signs found in non-neurasthenic adults, with possibly a slight lowering of the specific gravity, even without the presence of casts, much more in their presence, should be regarded as cases of true organic renal disease. Those cases of continuous orthostatic albuminuria occurring in adults who are neurasthenic or hysteric, with unimpaired specific gravity and negative microscopic findings, should be regarded as functional in origin, with a relatively good prognosis. Those cases occurring in children, associated with movable kidney or with no apparent cause whatever, especially familial cases, should be regarded as functional, with good prognosis. Those cases occurring in children and associated with infectious diseases, as diphtheria, scarlet fever, variola, pertussis, and even typhoid fever, should be regarded as cases of true nephritis, very likely glomerular; and though they may recover, still, the prognosis should be reserved.

The amount of albumin is of no prognostic value whatever; small amounts may mean nephritis, large amounts may mean functional derangement. Of more importance from the prognostic standpoint is the manner of life of the patient: his business cares and worries, his food and the manner and regularity of getting it, the amount of alcohol he consumes, his habits with regard to tobacco, the amount of sleep he gets, etc.

I believe that with time and the multiplication of reported cases we shall come to look upon orthostatic albuminuria, first, as a symptom of beginning nephritis; second, as a functional derangement associated with vasomotor disturbance, especially in hysteria and neurasthenia, and neuropathic individuals in general; third, as a circulatory derangement in congenital floating kidney; fourth, as an hereditary, familial defect; fifth, as a delicate sign of postinfectious nephritis. Thus, there will be no disease of orthostatic albuminuria, *per se*, any more than there are at the present time diseases known as oxaluria, phosphaturia, or indicanuria.

BIBLIOGRAPHY.

1. Pavy. Lancet, 1885, p. 706; 1886, p. 437.
2. Moxon. Guy's Hospital Reports, 1878.
3. T. M. Rooke. British Medical Journal, 1878, p. 596.
4. Dukes Clement. Ibid., November 12, 1881.
5. S. Schön. Jahrb. f. Kinderkr., 1895, Bd. xli. p. 307.

6. Ewald. Encylopädische Jahrbücher der gesam. Heilkunde, Eulenburg: article, Nierenkrankheiten Neue Folge II, pp. 433–442.

7. L. Kuttner. Zeitsch. f. klin Med., 1902, Heft 1 and 2.

8. Sutherland. The American Journal of the Medical Sciences, August, 1903, p. 289.

9. Achard. Bull. et mém. de la Soc. méd. des hôp., June 22, 1900, p. 757; and June 14, 1901, p. 640.

10. Méry and Touchard. Ibid., 1901, pp. 629–640.

11. B. J. Stokvis. Wiener med. Wochensch., 1902, pp. 850 and 910.

12. Paul Edel. Münch. med. Wochenschr, 1901, pp. 1833 and 1884.

13. Wm. E. Huger. Johns Hopkins Hospital Bulletin, 1902, p. 75.

14. H. G. Beck. The American Journal of the Medical Sciences, 1903, p. 466.

15. Le Noir. Bull. et mém. de la Soc. méd. des hôp., 1901.

16. Senator. Nothnagel's specielle Pathologie.

17. Hertz and Salomon. Bull. et mém. de la Soc. méd. des hôp., 1901.

18. Lenoissier et Lemoine. Comptes-rendus de la Soc. de biol., 1903, pp. 466, 469, 605.

19. Bourcy. Bull. et mém. de la Soc. des hôp., 1900, Nr. 21.

20. Nivière. Ibid., 1901, p. 148.

21. Lambert. Medical News, 1903, p. 636.

ADIPOSIS DOLOROSA.

WITH REPORT OF THREE CASES.[1]

By J. N. Hall, M.D.,

AND

C. E. Walbrach, M.D.,

OF DENVER, COL.

The three cases described below are examples of Dercum's disease, or adiposis dolorosa. Two of them are of the nodular form and one is of the localized diffuse form. All but one had the four cardinal features noted by Vitaud—viz., fatty tumor or tumors; pain, both spontaneous and induced in these cases; asthenia, and psychic symptoms. In Case I. the latter feature was wanting.

No disease of the thyroid gland was noted in any of these cases. Two of them used alcohol. Syphilis was not proven in any case. In one improvement took place under thyroid treatment. All were in women, as most reported cases have been. In none was hemorrhage from the mucous membranes present. Twenty-eight cases of this disease have been recorded according to Dercum and McCarthy. It must be more frequent than this number of cases would indicate, and will almost certainly be more often recognized when its characteristics become more widely known.

Of these three cases Dr. Hall saw one of the nodular variety in his private practice in September, 1902, and shortly afterward had the privilege of studying with Dr. Walbrach Case III. in the latter's service at the Denver City and County Hospital, after the diagnosis had been made by Dr. Walbrach. Case II. was examined by Drs. Fleming and Freeman, to whom the entire credit of the diagnosis

---

[1] Presented to the Denver City and County Society, March 1, 1904.